REMARKS

Upon entry of the foregoing amendment, claims 1-27 are pending in the application. By this Amendment, claim 1 is amended and claims 23-27 are added. No new matter is being presented. In view of the following remarks, reconsideration and allowance of all the pending claims are requested.

Applicants note with appreciation the Examiner's indication that each of the references cited in the Information Disclosure Statement of March 3, 2004 have been considered.

A. Allowable Subject Matter

Applicants note with appreciation the Examiner's indication that claim 5 would be allowable if rewritten in independent form.

B. §112, Second Paragraph, Rejection

The Examiner rejects claims 7 and 15 under 35 U.S.C. §112, second paragraph, as being indefinite without providing a full explanation of the deficiency of the claims and without identifying or explaining why any particular term(s) or limitation(s) render the claims indefinite. See MPEP §706.03(d). Applicants respectfully traverse this rejection, and assert that claims 7 and 15 particularly point out and distinctly claim the subject matter which the applicants regard as their invention, as required by 35 U.S.C. §112, second paragraph. Accordingly, claims 7 and 15 satisfy the requirements of 35 U.S.C. §112, second paragraph. Thus, reconsideration and withdrawal of this rejection are respectfully requested.

C. §103 Rejection over Richerzhagen in view of Yamamoto

The Examiner rejects claims 1-4, 6, 9, and 16-22 under 35 U.S.C. §103(a) as being obvious over Richerzhagen (U.S. Patent No. 5,902,499) in view of Yamamoto (U.S. Patent No. 5,482,660). Applicants respectfully traverse this rejection for at least the following reasons.

The Examiner asserts that Richerzhagen describes a laser and a liquid jet for material machining. Specifically, the Examiner asserts that Richerzhagen describes that: "[i]t is the object of the invention to create an arrangement with which a laser beam can be coupled optimally with a fluid jet for material processing, without damage being caused to the nozzle that

produces the fluid jet by the laser radiation." See Richerzhagen at col. 1, lines 63-66. The Examiner alleges that Richerzhagen discloses every limitation of independent claims 1 and 16, but that "Richerzhagen does not teach the presence of a wafer or a stage." For at least the reasons discussed below, it is respectfully submit that Richerzhagen does not disclose or suggest any limitation of method claims 1 and 16.

Specifically, Richerzhagen does not teach or suggest the usage of the fluid jet in a method of fabricating an ink-jet print head or a method of fabricating an ink-jet print head using a liquid-jet guided laser, as required by claims 16 and 1, respectively. Further, Richerzhagen does not teach or suggest a method that includes a process of forming an ink feeding port through a wafer which constitutes an ink-jet print head, as required by claim 1. Still further, Richerzhagen does not teach or suggest an ink feeding port forming process that includes fixing a wafer to a stage in a chamber to perform the process, and processing the ink feeding port in the wafer to a desired depth using a liquid-jet guided laser, as required by claim 1. Moreover, Richerzhagen does not teach or suggest forming an ink-jet print head on a wafer using a liquid-jet guided laser, as required by claim 16. Thus, for at least these reasons, Richerzhagen does not teach or suggest every limitation of claims 1 and 16.

The Examiner cites Yamamoto as remedying the deficiencies of Richerzhagen. However, it is respectfully submitted that Yamamoto does not remedy the deficiencies of Richerzhagen, at least because Yamamoto does not teach or suggest the usage of a fluid jet to form an ink jet print head. Specifically, Yamamoto also does not teach or suggest a method of fabricating an ink-jet print head using a liquid-jet guided laser, as required by claim 1. Further, although Yamamoto describes forming discharge ports by applying an excimer laser to a discharge port plate 16 (see col. 6, lines 32-36 of Yamamoto), Yamamoto also does not teach or suggest a method that includes a process of forming an ink feeding port (i.e., the ink supply port 10 of Yamamoto) through a wafer which constitutes an ink-jet print head, as required by claim 1. Still further, Yamamoto also does not teach or suggest an ink feeding port forming process that includes fixing a wafer to a stage in a chamber to perform the process, and processing the ink feeding port in the wafer to a desired depth using a liquid-jet guided laser, as

required by claim 1. Moreover, Yamamoto also does not teach or suggest forming an ink-jet print head on a wafer using a liquid-jet guided laser, as required by claim 16.

Thus, for at least these reasons, Richerzhagen, alone or in view of Yamamoto, does not teach or suggest every limitation of claims 1 and 16. Accordingly, claims 1 and 16 are patentable over Richerzhagen, alone or in view of Yamamoto. Claims 2-4, 6, and 9 depend from claim 1 and thus include all of the limitations of claim 1. Claims 17-22 depend from claim 16 and thus include all of the limitations of claim 16. Accordingly, these dependent claims are patentable over Richerzhagen, alone or in view of Yamamoto, for at least the same reasons that claims 1 and 16 are patentable over Richerzhagen, alone or in view of Yamamoto.

In addition, it is respectfully submitted that Richerzhagen cannot be used in combination with Yamamoto for the purposes of an obviousness rejection. In order to rely on Richerzhagen as a basis for an obviousness rejection, Richerzhagen must be analogous prior art. To be analogous prior art, Richerzhagen must either be in the field of the claimed invention, or must be reasonably pertinent to the problem with which the claimed invention is concerned. See *In re Oetiker*, 977 F.2d 1443 and MPEP §2141.01(a). It is respectfully submitted that Richerzhagen is not in the field of claims 1-4, 6, 9, and 16-22, i.e., Richerzhagen is not in the field of fabricating an ink jet print head. Furthermore, it is respectfully submitted that Richerzhagen is not reasonably pertinent to the problem with which claims 1-4, 6, 9, and 16-22 are concerned, i.e., Richerzhagen is not reasonably pertinent to forming an ink feeding port through a wafer which constitutes an ink jet print head (claims 1-4, 6, and 9) or to forming an ink jet print head on a wafer (claims 16-22). Accordingly, Richerzhagen is not analogous prior art under *In re Oetiker* and MPEP §2141.01(a). Thus, for this reason also, claims 1-4, 6, 9, and 16-22 are patentable over Richerzhagen, alone or in view of Yamamoto.

However, even assuming arguendo that it were proper to combine the fluid jet of Richerzhagen with the ink jet print head of Yamamoto, that combination of Richerzhagen and Yamamoto would neither teach nor suggest the Applicants' method of forming an ink jet feeding port through a wafer which constitutes an ink jet print head, not would this combination teach or suggest the Applicants' ink feeding port forming process.

For at least the reasons discussed above, reconsideration and withdrawal of this rejection are respectfully requested.

D. §103 Rejection over Richerzhagen in view of Yamamoto & Hashimoto

The Examiner rejects claims 8 and 10-14 under 35 U.S.C. §103(a) as being obvious over Richerzhagen in view of Yamamoto and further in view of Hashimoto (U.S. Patent Application Publication No. 2004/0246292). Applicants respectfully traverse this rejection for at least the following reasons.

1. Claim 8

Claim 1, Richerzhagen, and Yamamoto are discussed above. For at least the reasons discussed above, Richerzhagen, and Yamamoto, alone or in combination, do not teach or suggest every limitation of claim 1.

The Examiner cites Hashimoto and asserts that Hashimoto describes separating a chip from a silicon wafer by etching the wafer along a separating line parallel to a first direction of the wafer and dicing the wafer along a separation line parallel to a second direction of the wafer. See the abstract of Hashimoto. However, Applicants respectfully submit that Hashimoto does not remedy the deficiencies of Richerzhagen and Yamamoto. Specifically, Hashimoto also does not teach or suggest a method of fabricating an ink-jet print head using a liquid-jet guided laser, a method that includes a process of forming an ink feeding port through a wafer which constitutes an ink-jet print head, and an ink feeding port forming process that includes fixing the wafer to a stage in a chamber to perform the process and processing the ink feeding port in the wafer to a desired depth using the liquid-jet guided laser, as required by claim 1. Thus, for at least these reasons, Richerzhagen, alone or in view of Yamamoto and further in view of Hashimoto, does not disclose or suggest every limitation of claim 1. Accordingly, claim 1 is patentable over Richerzhagen, alone or in view of Yamamoto and further in view of Hashimoto. Claim 8 depends from claim 1 and thus includes all of the limitations of claim 1. Accordingly, claim 8 is patentable over Richerzhagen, alone or in view of Yamamoto and further in view of Hashimoto, for at least the same reasons that claim 1 is patentable over Richerzhagen, alone or in view of Yamamoto and further in view of Hashimoto.

In addition, for the reasons discussed above, it is respectfully submitted that Richerzhagen cannot be used in combination with Yamamoto or Hashimoto for the purposes of an obviousness rejection under *In re Oetiker* and MPEP §2141.01(a). Specifically, it is respectfully submitted that Richerzhagen is not analogous prior art because Richerzhagen is not in the field of claim 8, i.e., Richerzhagen is not in the field of fabricating an ink jet print head, and because Richerzhagen is not reasonably pertinent to the problem with which claim 8 is concerned, i.e., Richerzhagen is not reasonably pertinent to forming an ink feeding port through a wafer which constitutes an ink jet print head. Accordingly, Richerzhagen is not analogous prior art under *In re Oetiker* and MPEP §2141.01(a). Thus, for this reason also, claim 8 is patentable over Richerzhagen, alone or in view of Yamamoto and further in view of Hashimoto.

For at least the reasons discussed above, reconsideration and withdrawal of this rejection of claim 8 are respectfully requested.

2. Claims 10-14

As admitted by the Examiner at page 3, line 19 of the Office Action, Richerzhagen and Yamamoto each do not teach or suggest the claimed dicing process of dicing a wafer of claim 10. Thus, claim 10 is patentable over Richerzhagen, alone or in view of Yamamoto.

As discussed above, the Examiner cites Hashimoto and asserts that Hashimoto describes separating a chip from a silicon wafer by etching the wafer along a separating line parallel to a first direction of the wafer and dicing the wafer along a separation line parallel to a second direction of the wafer. See the abstract of Hashimoto. However, Applicants respectfully submit that Hashimoto does not remedy the deficiencies of Richerzhagen, and Yamamoto. Specifically, Hashimoto does not disclose or suggest a dicing process of dicing a wafer formed with a plurality of print heads using a liquid-jet guided laser, as required by claim 10. In fact, Hashimoto teaches away from claim 10 by describing dicing using a cutter blade to cut the silicon wafer into chips. See Hashimoto throughout the specification and figures, for example at paragraphs [0012], [0189], [0193], [0199], [0288], [0289], [0296] – [0299], [0303] – [0305], [0308], and Figs. 31-35 (dicing blade 231).

Thus, for at least these reasons, Richerzhagen, alone or in view of Yamamoto and further in view of Hashimoto, does not disclose or suggest every limitation of claim 10. Accordingly, claim 10 is patentable over Richerzhagen, alone or in view of Yamamoto and further in view of Hashimoto. Claims 11-14 depend from claim 10 and thus include all of the limitations of claim 10. Accordingly, claims 11-14 are patentable over Richerzhagen, alone or in view of Yamamoto and further in view of Hashimoto, for at least the same reasons that claim 10 is patentable over Richerzhagen, alone or in view of Yamamoto and further in view of Hashimoto.

In addition, for the reasons discussed above, it is respectfully submitted that Richerzhagen cannot be used in combination with Yamamoto or Hashimoto for the purposes of an obviousness rejection under *In re Oetiker* and MPEP §2141.01(a). Specifically, it is respectfully submitted that Richerzhagen is not analogous prior art because Richerzhagen is not in the field of claims 10-14, i.e., Richerzhagen is not in the field of fabricating an ink jet print head, and because Richerzhagen is not reasonably pertinent to the problem with which claims 10-14 are concerned, i.e., Richerzhagen is not reasonably pertinent to dicing a wafer formed with a plurality of print heads. Accordingly, Richerzhagen is not analogous prior art under *In re Oetiker* and MPEP §2141.01(a). Thus, for this reason also, claims 10-14 are patentable over Richerzhagen, alone or in view of Yamamoto and further in view of Hashimoto.

For at least the reasons discussed above, reconsideration and withdrawal of this rejection are respectfully requested.

E. New Claims

By this Amendment, claims 23-27 are added. Support for new claims 23-27 can be found throughout the specification, for example at paragraphs [0055], [0067], [0073], and [0078].

F. Conclusion

It is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, there being no other objections or rejections, this application is in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided below.

If any further fees are required in connection with the filing of this amendment, please charge the same to out Deposit Account No. 502827.

Respectfully submitted,

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